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Title of Abstract	Prevalence of somatic dysfunctions in adult patients with cystic fibrosis - A pilot Study

Text of ABSTRACT

Introduction:

Cystic fibrosis (CF) is the most frequent genetic disease in France. This disease mainly affects digestive organs (pancreas and bowel), the respiratory system and the reproductive tract. There is no available therapy to correct the underlying genetic defect. Treatment is directed toward slowing the progression of secondary organ dysfunction and its sequelae such as pancreatic insufficiency and chronic endobronchial infection. Pain is a potential complication of CF mainly in the thoracic, lumbar and abdominal regions. In addition to medical care, patients with CF often use alternative medicine specially osteopathy, to relieve pain and improve their quality of life, although little information is, as yet, available on this method.

To our knowledge, no osteopathic studies have been published on CF. No study assessing the somatic dysfunctions in patients with CF has been published. That is why we turned to a simple descriptive study of somatic dysfunctions.

This study aims to identify these dysfunctions and to define their possible associations with the physiopathological consequences of this disease.

Materials/Methods:

We used common clinical procedures for an osteopathic protocol test of each subject. Tests were divided into three main categories: cranial, neuro-musculo-skeletal and visceral.

This study was conducted on 14 patients with CF (study group) and 14 without chronic disease (control group), from October 1 2007 to January 31 2008 in the adult CF center at Cochin Hospital and in the clinical department of the European Center for Higher Education in Osteopathy (CEESO), Paris, France. The two populations were matched according to age and sex. The osteopathic protocol test evaluated the occurrence of the main clinical elements that were associated with the presence of somatic dysfunction: Restricted motion, Tenderness, Asymmetry and Tissue texture changes. Clinical data were collected on the “Outpatient Osteopathic SOAP Note Form”, listing 14 anatomical regions, to which we added the evaluation of specific anatomical regions according to practitioner experts opinions. Qualitative data were exposed and analyzed using the

Fisher’s exact test with an α risk set at 5%.

Results:

We used the neurophysiological model of somatic dysfunction for description and interpretation of the clinical signs diagnosed by palpation of the patients. This allowed us to discuss possible associations between the different somatic dysfunctions that could be involved through neurological reflexes (viscero-somatic, somato-visceral, somato-somatic and viscera-visceral). More frequent somatic dysfunctions were observed in patients with CF, mainly in the thoraco-pulmonary region (lung motility ($p<0.0001$), pleural dome ($p=0.005$ on the right side, $p<0.0001$ on the left), mediastinum ($p=0.02$)) and respiratory muscles (diaphragm ($p=0.02$), sub-clavicular muscles ($p=0.02$ on the right side, $p<0.0001$ on left).

Conclusions:

To our knowledge this study is the first one to evaluate the prevalence of somatic dysfunctions in patients with CF. Most were associated with postural changes and physiological consequences of respiratory insufficiency. But during palpation, the practitioner is likely to find areas of lower mobility and to feel tissue changes that are related to the physiopathological effects of the disease. It may be difficult to differentiate clinical features due to somatic dysfunctions, considered « reversible » after osteopathic treatment, from irreversible ones due to physiopathological impairments of cystic fibrosis.

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